

Peak Number of Digital Units Seen Used by Utilities in 1963

By JOE MCLEAN

PHILADELPHIA. — This year will prove the biggest so far in the number of digital control computers installed by electric utilities, according to a survey of the Instrument Society of America.

The survey, made by the ISA's Power Industry division, was reported at the sixth National Power Instrumentation Symposium, here, last week.

However, a sharp drop in installations was expected in 1964 and 1965, it was noted, indicating that "the industry may wish to profit from the service experience of the earlier installations."

But the report added "The use of computers may increase later in this decade."

The survey covered only investor-owned or publicly-owned electric utilities in the continental United States, limited to installations of on-line computers in steam-electric generating stations, excluding other applications such as economic dispatch of generation, or hydroelectric operations.

44 Installations.

Presented by R. A. Russell of Black & Veatch, Kansas City, Mo., the report said that returned questionnaires described 42 computer installations serving 66 generating units of 24 utilities. With about 90

utilities having steam-electric generating capabilities exceeding 300 mw, "about one-fourth of the systems which probably are large enough to justify use of on-line generating station computers have actually made such installations."

The survey notes 26 installations scheduled this year and 11 in the 1964-65 period. Furthermore, eight additional contracts were awarded subsequent to the survey, a number of which may be installed in the next two years.

The three major reasons for the installations, according to the report, were increased safety, fuel savings and better records, accounting for 32, 20 and 28 installations, respectively. Fifteen computers were acquired primarily for manpower utilization, six for service experience and three for space economy.

Burroughs Elevates Exley

DETROIT. — Charles E. Exley, Jr., controller of the Todd division of Burroughs Corp. since April 9, 1960, has been named corporate controller succeeding Harry G. Bowles. Mr. Bowles, who was vice-president and controller, was named vice-president of finance in March, a

WASHINGTON. — Fairchild, Stratos, Hagerstown, Md., last week outlined plans to the Montgomery County (Maryland) Council for a laboratory and other facilities in Germantown, Md., which is said may eventually cost \$10 million and provide employment for 3000 persons.

Edward G. Uhl, president of the firm, said the project would house testing and computing laboratories and some manufacturing facilities.

Fairchild Stratos is engaged in aircraft, missile and satellite development work. Industrial-type manufacturing will continue to be done at Hagerstown.

Computers & Controls

RCA 501s, 301s Do DISC Cataloging

PHILADELPHIA. — The job of cataloging over 674,000 industrial items, supplied by the Defense Industrial Supply Center here to United States military establishments, has been assigned to five RCA 501s and two RCA 301s — is expected to make possible a \$3 million annual savings in processing costs.

Use of the computers — three RCA 501s and two RCA 301s — is expected to make possible a \$3 million annual savings in processing costs.

In addition to production of catalogs, the DISC data center serves an inventory control capacity on a worldwide basis. Through the computers, daily requirements of operating units and mobilization reserve items are maintained at a desired level, taking into account the necessary lead time for re-ordering in the event of an emergency.

"The problem of cataloging such a vast variety of material on

appointed dates, while simultaneously keeping 345 catalog volumes responsive to the many changes in number, types and price fluctuations, provided a tremendous challenge for the Defense Industrial Supply Agency." Rear Adm. J. S. Dietz, DISC commander said.

Without an integrated EDP complex, manual compilation and updating of catalogs is necessary. The time lag between the start of new catalogs and their final printing would make them obsolete before they were received by end users, Admiral Dietz indicated.

As an example of the savings involved, RCA noted that the manual updating of a list of 25,000 stock numbers would take a single clerk a whole year to do the entire job at a cost of \$6,000. The same job can be done by computer application in six hours at a cost of \$825, and the EDP systems turn out the printed pages for final reproduction and binding.

ELECTRONIC NEWS, MONDAY, MAY 20, 1963



DISTRICT MANAGER: Ray G. MacInerney has been named San Francisco district manager for The Packard Bell Computer division, Los Angeles, succeeding William Thiesner who resigned, the company said. The division is part of Packard Bell Electronics Corp. Mr. MacInerney was formerly a project manager for TRW Computers Co., Canoga Park, Calif., a post now filled by M. E. Williams, formerly a project engineer for the Thompson Ramo Wooldridge, Inc., subsidiary.

AF Admits Interest In High Speed NCR TE Printer

DAYTON. — Air Force officials confirmed industry reports that they are interested in the 2400-lines-per-minute thermoelectric printer said to be under development at the National Cash Register Co. here.

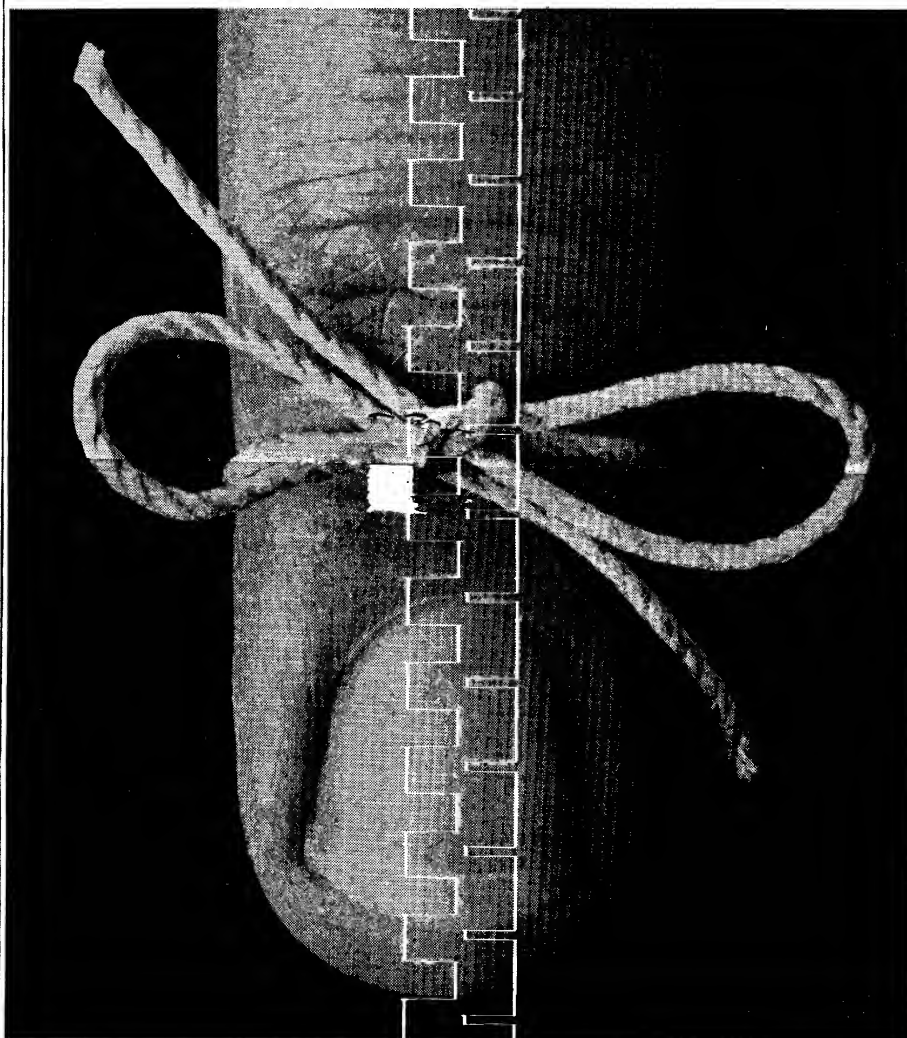
Also believed to be evaluating the system, which would more than double present computer printer speeds, is the Central Intelligence Agency in Washington.

AF officials, interviewed at last week's National Aerospace Electronics Conference here, could provide no details of the printer nor its applications. NCR sources had no comment.

The printer is believed to use a heat principle in which the printing head does not touch the specially treated paper.

WASHINGTON. — The Central Intelligence Agency, which uses a number of computers and high-speed print-out systems, declined last week to confirm that it has ordered a new 2400-line-per-minute computer printer using the thermoelectric principle.

A CIA spokesman said the agency does not talk about electronic or other equipment it uses in its worldwide intelligence activities.



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ELECTRONIC NEWS, Monday, May 20

New Case System Converts All Vocal Commands to Digits

By JOHN FISHER

CLEVELAND. — Development of a technique by which any voice can be converted into digits for vocal command, oral programming of numerical-controlled machine tools has been perfected by the Case Institute of Technology, here.

Principal advantages cited are as follows:

- The system is said to convert into digits any voice regardless of accents or peculiarities of pronunciation or tone of voice. Other systems under development, elsewhere, require recognition by "tuning" to the individual voice.
- The system required a minimum amount of logic equipment.
- It will allow a reduction of programming time from several hours to seconds.

The study at Case, conducted by Dr. Harry W. Mergler, professor of engineering, and graduate student Peter Harbath, limited itself to recognizing the symbols used in N-C machines — X, Y, minus and point and the numerals zero through nine. Dr. Mergler said Z could be added with a minimum effort to provide a third axis if desired.

"The result will be the elimination in some cases of the disparity between hours of programming and only seconds of machining. This is not to say, however, that speech recognition will replace programming, since many machine tools operate two or three axes at one time, which can't be done by voice," Dr. Mergler said.

Technical Report

The development will be fully disclosed in a technical report this summer and will be patented and available for licensing later this year.

Applications in addition to N-C tools may include voice operations of elevators, control of cranes in a high resolution manner and traffic control, Dr. Mergler said.

Mr. Harbath and Dr. Mergler successfully removed the amplitude variation from the spoken word to allow automatic recognition of any voice. This was achieved by removing much of the redundant data and by very narrow data filtering.

"Of the three principal factors involved — width of bandwidth, fineness of quantizing, and sam-

pling frequency — the most critical parameter is the sampling frequency," Dr. Mergler said.

Others involved in similar work, but on a broader scale, are International Business Machines Corp.'s Laboratory, Advanced Systems Development division in San Jose, Calif., and Bell Telephone Laboratories, IBM's project Shoebox has achieved voice recognition, but must tune into the particular voice before it can do so.

"Our development will have an important bearing on less-complex systems which are used only for supervisory control. The development has, to a limited extent, solved the man-machine interface problem which is the biggest problem in machine technology," Dr. Mergler said.

ARGONNE, Ill. — A computer complex totaling nearly \$3 million for use in physics and nuclear science research will be set up this summer at the Argonne National Laboratory here, according to officers of the Laboratory.

The key instrument in the new system will be a "powerful and flexible" version of a Control Data 3600 computer produced by Control Data Corp., Minneapolis. Dr. William F. Miller, director of Argonne's Applied Mathematics division, said the computer will make possible rapid processing of increasing amounts of data from nuclear energy research, and open up new avenues of "previously impossible" research.

"The Control Data 3600 will be the nucleus for a network of five digital computers," he said. "Four desk-size Control Data 160-A computers will be tied to the 3600 for monitor control and input-output processing and for off-line data processing."

Specific applications, according to Dr. Albert V. Creve, Argonne Laboratory director, will include

physics experiments conducted with the Zero Gradient Synchrotron, the large particle accelerator scheduled for completion this year.

"It will also be used extensively in the design of nuclear reactor systems for power and research," he added. "As well as in biological research, where the computer can give us rapid quantitative data on the effects of tiny amounts of radiations on living organisms."

The 3600 was said to interpret and execute instructions at an average rate of over 400,000 per second. Peripheral equipment will include a number of high speed printers and magnetic tape storage units.

The computer has a memory composed of two units each containing 1,671,168 magnetic cores. Thousands of these cores, Argonne spokesmen said, are strung on a network of wires in such a fashion that several wires pass through the center of each core. A line of as many as 51 of these cores will represent an alphabetic or numeric

"word," which will be available for calculation in 1.5 msec.

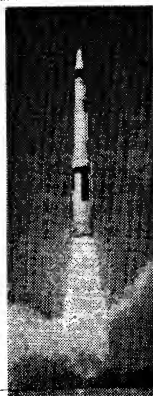
The actual cost of the computer installation at Argonne will be \$1-900,000, the spokesman said. It will represent a complete new system, they explained, adding to the Laboratory's existing computer facilities.

William C. Morris, president of Control Data Corp., also reported that the 3600 computer will soon be installed at three other institutions, in addition to Argonne. These are Michigan State University, East Lansing, Mich.; Lawrence Radiation Laboratory, Livermore, Calif.; and the Societe d'Informatique Appliquee, Paris.

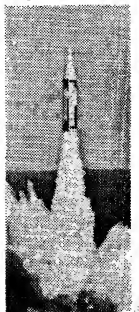
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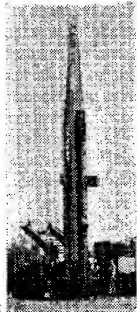
Air Force's Minuteman ICBM



Navy's Polaris missile



Army's Pershing ballistic missile



Army's Lance (Missile B) battlefield missile



Bendix Shifts Marketing Setup at Div.

DETROIT.—The Industrial Controls division of Bendix Corp. here has reorganized its marketing setup.

Roy Nelson, marketing manager, has been appointed Pacific regional manager.

Frank Hibbard, who covered the 11-Western State area for the division, has been named assistant Pacific regional manager.

Mr. Nelson's position in Detroit has been assumed by Jay Gorham but with the title of sales department manager. Mr. Gorham was field sales manager, a post that has been eliminated in the reorganization, it was stated.

Two managers have been named for the Eastern Coast. Lee Musser is the regional manager for end users, while David Busch is his counterpart for machine tool manufacturers.

Mr. Musser was previously with IBM in the same region. Mr. Busch was with the Cincinnati Milling Co.

In the Midwest, machine tool manufacturers will be served by William Sorenson and end users by Roy Wynn at the home office.

In the south-central areas, as previously noted, Robert Soerhoff will serve both types of firms from his office in Dayton. The Southwest regional manager will be Ed J. Strong in Dallas.

Unless noted, the various men have been with the division and held equivalent positions.

IBM Div. Elevates Moore

WASHINGTON.—Robert J. Moore has been promoted to the new position of assistant counsel at International Business Machines Corp.'s Federal Systems division in Rockville, Md.

He has been IBM since 1956 as an attorney with the former Military Products division, Owego, N. Y., and later counsel of the Service Bureau Corp., an IBM subsidiary.

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